

Prevalence of Chickenpox under Ten Years during the Last Five Years in Hilla City

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ABSTRACT:

Chickenpox is an infection transmitted by the respiratory tract, causing itching and rash with small blisters filled with fluids. It also easily moves from one person to another and may cause pneumonia, brain infection, dehydration and sepsis. The study aim: to assess the prevalence of chickenpox and associated with age and gender among under 10 years. A descriptive study design is conducted retrospectively for the last 5 years ago in Hilla City. By a convenience sample of (N=156) was collected five years from (2014, 2015, 2016, 2017, and 2018) and was for all years for children diagnosed with chickenpox. As a medical records of statistic considered a study tools. Through the used descriptive and inferential statistic, data were analyzed. The study findings depicts that the years of 2017 were records the highest percentage among years. The most of infection were target the age groups (5-9) years, As well as, there is a non significant association between the time of prevalence and infected patients their age and gender at p-value >0.05. There is an inter-annual response to the infection and there were longer the age the increasing the infection for males gender more than females. Its need to be conducted further studies in a national level to assess the associated factors with chickenpox infection in different areas of country (rural-urban).

Keywords: Prevalence, Chickenpox, Under Ten Years.

INTRODUCTION

Causing varicella zoster virus both varicella (also known as chickenpox) and herpes zoster also known as shingles. Varicella is a common disease in childhood, usually gives immunity life, while herpes zoster disease in infected individuals previously - Round arises when a virus reacts varicella in ganglia^[1]. Varicella is common and highly contagious and affects all children who have been exposed before almost adolescence. Although most of the infection varicella give lifelong immunity, it has described the clinical injuries among healthy children^[2]. Usually affects severe illness early childhood infection, usually affects children from 2-8 years of age^[3]. Varicella virus, zoster all over the world is happening, but less attention than other infectious agents, such as influenza virus and Staphylococcus resistant to multiple drugs in developed countries. However, the varicella vaccine is routine and there was no eradication of disease varicella zoster virus. It can happen import varicella from countries that do not

vaccinate or zoster caused by the reactivation of latent virus vesicle of wild-type^[4].

Chickenpox is self-determination of the disease usually leads to a general feeling of fever and rash feeling rash spread. The average time of exposure to the virus to the development of the usual rash is 14 to 15 days, although the time may be short up to 10 days or 20 days^[5]. Complications of chickenpox infection occur in the water about 1% of cases, secondary bacterial infections and skin lesions are the most common, and other complications include pneumonia, encephalitis, thrombocytopenia cerebellar and hepatitis. Infection among adolescents and adults more severe infections are usually children. The average number of follicles skin is usually between 250 and 500, but may occur more than 500 injured in severe cases^[6]. The basic method of transmission of the virus varicella MBS by airborne particles with air (with the presence of viral particles in respiratory droplets from the device 24 to 48 hours before the onset of rash) and in the skin lesions of the infected person. High incidence of infection with the varicella

initial infected person to children at risk may range between 61% and 100%, while the secondary infection rates after touching logical herpes less than 15% [7]. Spread the virus varicella zoster spread through secretions of the respiratory system, and then copy the virus to replicate in the lymph tissues, and then become the nerve roots dormant later, occurs activation when the immune fade, which may explain why the elderly exposed to the elderly, who suffer from a decline in immunity. Function, tends to experience an outbreak of the virus varicella zoster [8]. Thus, the present study will be conduct to evaluate the prevalence of chickenpox and associated with age and gender among under 10 years.

MATERIALS AND METHODS

$$\left(\frac{\text{Number of Cases with Chickenpox in Year}}{\text{Total Numbe of Children in each years}} \right) 100$$

RESULTS

A descriptive (retrospective) study design is conducted to the prevalence of chickenpox and associated with age and gender among under 10 years. By a convenience sample of (N=156) was collected five years from (2014, 2015, 2016, 2017, and 2018) and was for all years for children diagnosed with chickenpox. As a medical records of statistic considered a study tools.

Statistical Analysis

In order to determine whether the objectives of the study have been achieved or not, the analysis of the study data by applying the descriptive analysis methodology (SPSS) version XX which includes the formula under: (Frequencies & Percentages). and inferential statistical data analysis approach: used by application of the Chi-square test ti identify the associated chickenpox with age and gender

Table 1. Prevalence of Chickenpox among each Year

Prevalence of chickenpox in 2014			
Age No. (%)		Gender No. (%)	
<1 yer	13(41.9)	Male	19(61.3)
1-4 yer	13(41.9)	Female	12(38.7)
5-9 yer	5(16.1)	Total	31(100)
Prevalence of chickenpox in 2015			
Age No. (%)		Gender No. (%)	
<1 yer	6(19.4)	Male	20(64.5)
1-4 yer	11(35.5)	Female	11(35.5)
5-9 yer	14(45.2)	Total	31(100)
Prevalence of chickenpox in 2016			
Age No. (%)		Gender No. (%)	
<1 yer	8(26.7)	Male	22(73.3)
1-4 yer	9(30.0)	Female	8(26.7)
5-9 yer	13(43.3)	Total	30(100)
Prevalence of chickenpox in 2017			
Age No. (%)		Gender No. (%)	
<1 yer	13(29.5)	Male	28(63.6)
1-4 yer	10(22.7)	Female	16(36.4)
5-9 yer	21(47.7)	Total	44(100)
Prevalence of chickenpox in 2018			
Age No. (%)		Gender No. (%)	
<1 yer	5(25.0)	Male	9(45.0)
1-4 yer	9(45.0)	Female	11(55.0)
5-9 yer	6(30.0)	Total	20(100)

Note from the table the highest percentage of spread and then convergence and then increase and then decrease by the last five years.

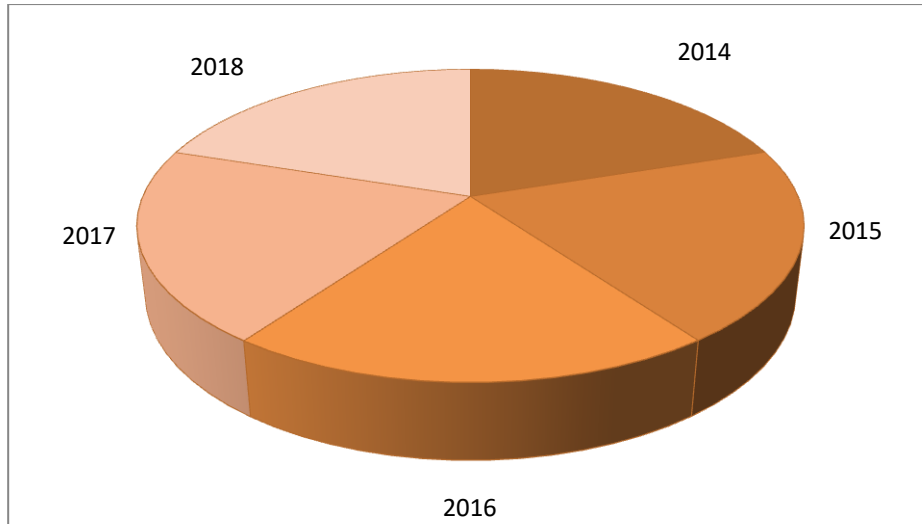


Fig.1:Prevalence of chickenpox according to years

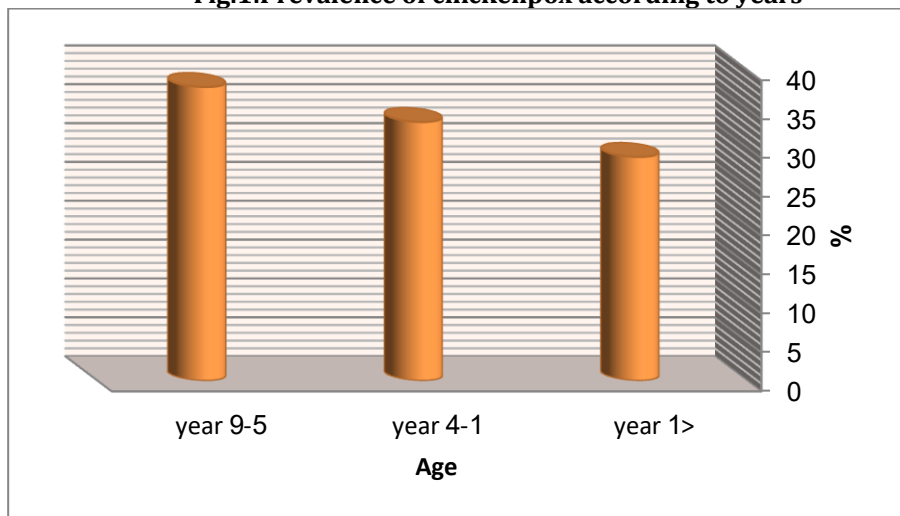


Fig.2:Prevalence of chickenpox according to age

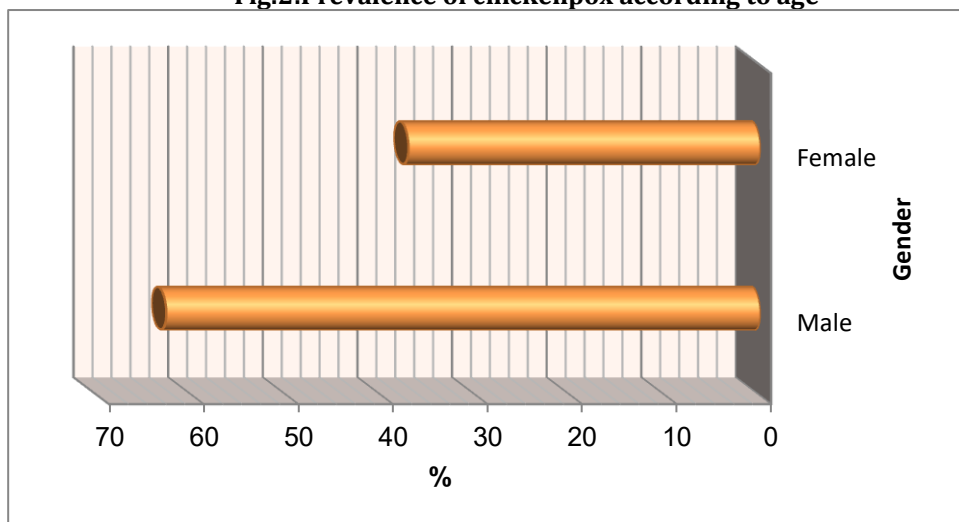


Fig.3:Prevalence of chickenpox according to Gender

Table 2. Association between years of prevalence and children their age and gender

Variable s	Rating	Years					Tot al	d. f	Sig
		20 14	20 15	20 16	2017	2018			

Age (years)	<1 yer	13	6	8	13	5	45	8	$\chi^2_{obs.} = 12.106$ $\chi^2_{crit.} = 15.507$ P-value= 0.147 →NS
	1-4 yer	13	11	9	10	9	52		
	5-9 yer	5	14	13	21	6	59		
	Total	31	31	30	44	20	156		
Gender	Male	19	20	22	28	9	98	4	$\chi^2_{obs.} = 4.221$ $\chi^2_{crit.} = 9.488$ P-value= 0.377→NS
	Female	12	11	8	16	11	58		
	Total	31	31	30	44	20	156		

" $\chi^2_{obs.}$ = Chi-square observer, $\chi^2_{crit.}$ = Chi-square critical, Df= Degree of freedom, P-value= Probability value, NS= non significant"

The table refers to a insignificant association between the time of prevalence and patients infected with chickenpox their age and gender at p-value >0.05.

DISCUSSION

Chickenpox usually begins with fever, headache, and pain in the body. Immediately, a red rash starts in the face and abdomen and spreads to the rest of the body. It can reach the inside of the mouth and scalp, accompanied by a feeling of itching. The rash is usually a small bubble filled with transparent liquid. Our findings depicts that year of 2017 was the highest prevalence of chickenpox, where the infection was the target the ages between (5-9) years old male. These results come because the varicella vaccination not available as being the 5.5 million cases around the world new varicella cases would happen annually according the results of study has been estimated the burden of varicella in Europe before the introduce of universal childhood vaccination^[8].

The result of our findings show that the prevalence of infection was the target age (5-9 years), and this comes with the assurance that the decline in infection rates among children under 5 years of age have the highest rates in the older age groups. This pattern tends to occur in the eastern and Southern European countries, as noted in a previous review^[3].

As well as, the highest percentage were recorded by male gender were infected with chickenpox in our findings, this results come as being the most admitting of hospital were male or the most deliverers were also male and this confirm come with herpes zoster patients their characteristics. The greatest percent were among male^[9].

In our findings there was little correlation between the time of deployment and patients with chickenpox age and sex in the value of $p > 0.05$. These results come here to hold confirmed the absence of gender differences in the incidence of chickenpox only in the 15-24 year age group^[10].

CONCLUSION

There is an inter-annual response to the infection and there were longer the age the increasing the infection for males gender more than females. Its need to be conducted further studies in a national level to assess the associated factors with chickenpox infection in different areas of country (rural-urban).

REFERENCES

1. Wutzler, P., Bonanni, P., Burgess, M., Gershon, A., Sáfadi, M. A., & Casabona, G. (2017). Varicella vaccination-the global experience. Expert review of vaccines, 16(8), 833-843.
2. Hall, S., Maupin, T., Seward, I., Jumaan, A. O., Peterson, C., Goldman, G., ... & Wharton, M. (2002). Second varicella infections: are they more common than previously thought?. Pediatrics, 109(6), 1068-1073.
3. Bonanni, P., Breuer, I., Gershon, A., Gershon, M., Hryniewicz, W., Papaevangelou, V., ... & Weil-Olivier, C. (2009). Varicella vaccination in Europe-taking the practical approach. BMC medicine, 7(1), 26.
4. World Health Organization. (2014). Varicella and herpes zoster vaccines: WHO position paper. June 2014. Weekly Epidemiological Record= Relevé épidémiologique hebdomadaire, 89(25), 265-287.
5. European Centre for Disease Prevention and Control (ECDC). ECDC guidance: Varicella vaccination in the European Union, 2015.
6. Seward, J. F., Zhang, J. X., Maupin, T. J., Mascola, L., & Jumaan, A. O. (2004). Contagiousness of varicella in vaccinated cases: a household contact study. Jama, 292(6), 704-708.
7. Harpaz, R., Ortega-Sanchez, I. R., & Seward, J. F. (2008). Prevention of herpes zoster: recommendations of the Advisory Committee on Immunization Practices (ACIP). Morbidity and Mortality Weekly Report: Recommendations and Reports, 57(5), 1-30.
8. Riera-Montes, M., Bollaerts, K., Heininger, U., Hens, N., Gabutti, G., Gil, A., ... & Verstraeten, T. (2017). Estimation of the burden of varicella in Europe before the introduction of universal childhood immunization. BMC infectious diseases, 17(1), 353

9. Chidiac, C., Bruxelles, J., Daures, J. P., Hoang-Xuan, T., Morel, P., Leplège, A., ... & de Labareyre, C. (2001). Characteristics of patients with herpes zoster on presentation to practitioners in France. *Clinical infectious diseases*, 33(1), 62-69.
10. Fleming, D. M., Cross, K. W., Cobb, W. A., & Chapman, R. S. (2004). Gender difference in the incidence of shingles. *Epidemiology & Infection*, 132(1), 1-5.
11. Obaid, R. F., Al-Khafaji, Y. A., Obied, H. N., AL-Jibouri, S. A., Mohammed, S. J., & Al-kilabi, R. F. (2018). Correlation between live attenuated measles viral load and growth inhibition percentage in non-small cell lung cancer cell line. *Journal of Contemporary Medical Sciences*, 4(1).
12. Obaid, R. F., Al-Khafaji, Y. A. R. K., Obied, H. N., & AL-Jibouri, S. A. (2018). Comparison between Antitumor Activity of Live-Attenuated Measles Virus and Cisplatin on Ki-67 Expression of Colon Cancer Cell Line (SW-480) In vitro. *Medical Journal of Babylon*, 15(1), 74-77